This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-5 (canceled)

Claim 6 (original) A processing agent for processing data at a node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, wherein one of the nodes in the multicast group is designated a rendezvous node, the processing agent comprising:

a state memory; and

a protocol processor having logic to couple to a selected node in the data network, and having logic to transmit and receive data with other processing agents in the data network over a data channel using a reliable protocol, the protocol processor couples to the state memory and has logic to store and retrieve the data to and from the state memory, respectively.

Claim 7 (original) The processing agent of claim 6 wherein the selected node is a selected node in the multicast group and wherein the protocol processor further comprises:

logic to receive data from at least a first processing agent in the multicast group over the data channel;

logic to update the state memory with the data; and

logic to transmit the data over the data channel to at least a second processing agent associated with the multicast group.

Claim 8 (original) The processing agent of claim 6 further comprising a packet forwarding engine, the packet forwarding engine coupled to the protocol processor, the state memory and the selected node, the packet forwarding engine comprising:

logic to retrieve the data from the state memory;

logic to receive data packets transmitted on the data network;

logic to process the received data packets based on the retrieved data from the

state memory to form an output data stream; and

logic to transmit the output data stream on the data network.

Claim 9 (original) The processing agent of claim 8 wherein the packet forwarding engine has logic to process the received data packets based on priority information obtained from the retrieved data from the state memory.

Claim 10 (original) A method for operating a processing agent coupled to a selected node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes, including the selected node, form a multicast group, wherein one of the nodes in the multicast group is designated a rendezvous node, the method comprising steps of:

receiving data over a data channel;

updating a state memory with the data; and

propagating the data over the data channel to other processing agents in the multicast group using a reliable protocol.

Claim 11 (original) The method of claim 10 wherein a joining node, that is a child peer to the selected node, joins the multicast group, the method further comprising steps of:

receiving an indication that the joining node has joined the multicast group; and

propagating data from the state memory to the joining node over the data channel using a reliable protocol.

Claim 12 (original) The method of claim 10 further comprising the steps of:

receiving a query from a requestor in the data network, regarding data in the state memory; and

transmitting at least a portion of the data in the state memory to the requestor over the data channel in response to the query.

Claim 13 (original) A data network for transmitting data, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, wherein one of the nodes in the multicast group is designated a rendezvous node, the data network comprising:

a plurality of processing agents, each of the processing agents having a state memory, wherein each processing agent is coupled to a corresponding node in the multicast group;

means for receiving data at the processing agent coupled to the rendezvous node;

means for updating the state memory of the processing agent coupled to the rendezvous node with the data;

means for propagating the data from the state memory of the processing agent coupled to the rendezvous node to all other processing agents in the multicast group; and

means for updating the state memories of all other processing agents in the multicast group with the data.

Claim 14 (original) The method of claim 13 wherein a joining node, that is a node of the plurality of nodes, is added to the multicast group, the joining node having a data store, the method further comprising steps of:

propagating the data to the joining node using a reliable protocol; and

updating the data store at the joining node with the data.

Claim 15 (original) The method of claim 13 wherein the means for propagating comprises logic at each of the processing agents to implement a data channel using a reliable protocol.